UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

MAR 03 1995

(A-18J)

VIA TELEFAX AND REGULAR MAIL

E.G. Johnson
Manufacturing Complex Manager
Shell Oil Company
P.O. Box 262
Wood River, Illinois 62095

Re: Shell Oil Company's Request for Waiver of Benzene Waste Operations NESHAP for Wood River Manufacturing Complex

Dear Mr. Johnson:

The United States Environmental Protection Agency (U.S. EPA) is in receipt of your letter dated February 2, 1995, to David Kee, Director of the Air and Radiation Division, U.S. EPA, Region 5, received by U.S. EPA on February 6, 1995, regarding Shell Oil Company's (Shell) request for a waiver of compliance from the control requirements found in the National Emission Standard for Hazardous Air Pollutants rule for Benzene Waste Operations (Benzene Waste NESHAP) set forth at 40 C.F.R. Part 61, Subpart FF. Shell's letter was written in response to U.S. EPA's December 28, 1994, letter proposing to deny Shell's request for a waiver. In the February 2, 1995 letter, Shell sets forth its factual and legal positions, and requests that U.S. EPA reconsider its proposed denial of Shell's request for a waiver.

Shell's letter begins by documenting the events related to the final promulgation of the benzene NESHAP regulations, and Shell's submittal of its waiver application. U.S. EPA would like to take this opportunity to review certain facts that Shell has omitted from its February 2, 1995, letter.

Shell states that in its March 24, 1993, waiver application, it did not include the cooling tower makeup water in its total annual benzene inventory (TAB), but did describe the cooling tower makeup water in its application for a benzene waiver; therefore, Shell maintains that U.S. EPA was on notice that the cooling tower makeup water existed and was not included in the TAB. U.S. EPA agrees that Shell did include a statement to this effect in its 150 page combined waiver application/initial report. However, Shell distinguished the "water wells" from the oil recovery wells in its discussion, and Shell's position was that the water pumped from the water wells, which is used as

cooling tower makeup water, was not a benzene waste stream, and therefore, Shell did not include information, such as sampling results, that would have indicated that there was benzene in the water pumped from the water wells. Therefore, while U.S. EPA agrees that Shell mentioned the groundwater wells and the cooling tower makeup water in its waiver application, to say that U.S. EPA was "on notice that cooling tower makeup water existed and...was not included in the TAB," implies that U.S. EPA had been given information that there was benzene waste in the cooling tower makeup water. Shell's waiver application gave no indication that water pumped from the water wells to be used as cooling tower makeup water is contaminated with benzene.

Shell's letter also fails to mention that following a review of the waiver application, on June 22, 1993, Katherine Keith of U.S. EPA contacted Joseph Brewster, Manager of Environmental Conservation, Shell, who had been provided in the waiver application as a contact person, to ask questions about Shell's mitigation goal calculation, compliance schedule and mitigation project. Mr. Brewster had Eric Petersen, Process Engineer, Shell, respond to this call, and as Shell indicates in its letter, on July 13, 1993, Shell submitted additional information related to the waiver application. In this letter, Shell identified Mr. Petersen as the person to contact for further information.

Shell's letter fails to state that on September 28, 1993, Katherine Keith went to Shell and met with Mr. Petersen to review the waiver application, including a detailed review of Shell's compliance strategy, the mitigation goal calculations, Shell's mitigation project, etc., in order to better understand Shell's waiver application.

In its letter, Shell states that in November 1993, U.S. EPA performed a multi-media audit of the facility, but U.S. EPA did not indicate that it believed that the cooling tower makeup water ought to be included as a benzene waste stream.[1] This statement is not correct. From October 25 through November 9, 1993, U.S. EPA's National Enforcement Investigations Center (NEIC) performed an inspection of Shell. The main purpose of this

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[1] Shell should be aware that U.S. EPA's inspectors never advise a source of the inspector's determination of the source's compliance or noncompliance during an inspection. The determination regarding a source's compliance status is made by U.S. EPA only after the inspection results have been reviewed by U.S. EPA's enforcement team. At the time of the inspection, the inspector does identify to the source "areas of concern" that the inspector notes during the inspection; however, this information is not meant to provide a comprehensive and final determination of the source's compliance with environmental laws.

inspection was not to review Shell's waiver application; the inspection was performed to determine Shell's compliance with all environmental statutes. However, U.S. EPA had some concerns related to Shell's waiver application, particularly in light of the fact that the information in the waiver application did not correspond to the reports that Shell provided to U.S. EPA for purposes of toxics release inventory (TRI) reporting. Therefore, the U.S. EPA inspectors reviewed Shell's waiver application/initial report with Mr. Petersen. During this review process, U.S. EPA discovered that Shell had made changes to its control plan, but had failed to provide U.S. EPA with any information related to these revisions.

Although U.S. EPA could have advised Shell that these undocumented revisions to its control plan jeopardized its waiver application since the application was no longer accurate, U.S. EPA instead asked Shell to provide underlying documentation for these revisions to its control plan as a modification to its waiver application.

At the end of the November 1993 inspection, U.S. EPA's inspectors held a closing conference with representatives of Shell. At that time, Ken Garing of NEIC informed Shell that U.S. EPA had numerous concerns with respect to the facility. Even though this was beyond the scope of the inspector's role, Mr. Garing specifically advised the Shell representatives that the cooling tower makeup water was potentially a benzene waste stream subject to Subpart FF.

Shell's February 2, 1995 letter states that it was not until February 1994 that, "U.S. EPA first mentioned that it was 'looking' at the various benzene waste streams, including the groundwater streams." This statement is inaccurate in light of the statements made by U.S. EPA during the closing conference in which Mr. Garing identified the cooling tower makeup water as a potential benzene waste stream. In addition, this statement does not consider the fact that U.S. EPA had no way of knowing that there was benzene in the cooling tower makeup water until U.S. EPA inquired into the discrepancy between the TRI reports and the waste streams identified by Shell in its waiver application during the multi-media inspection.

Shell's letter also does not state that as a follow up to the multi-media inspection, Ken Garing requested sampling results from Shell for each of the production wells; however, Shell did not provide this information to U.S. EPA. Had Shell provided this information to U.S. EPA when requested, it is possible that U.S. EPA could have been in a position to provide even more information to Shell to convince Shell that its cooling tower makeup water was a waste stream subject to Subpart FF at an earlier date. Due to Shell's failure to provide the requested information, the final multi-media inspection report for the

Shell facility does not include the results relating to the production wells.

On November 19, 1993, Shell provided U.S. EPA with an updated waiver application that U.S. EPA requested once it was discovered that Shell had deviated from the control plan set forth in its March 1993 waiver application (as described above). Shell's letter does not state that following a review of this information, U.S. EPA discovered that a waste stream being sent off-site (spent caustic) was not included in Shell's Benzene Quantity (BQ) calculation[2].

Based upon this discovery, U.S. EPA contacted Mr. Petersen of Shell, at various times during the months between November 1993 and March 1994 to advise Shell that the benzene content of the spent caustic stream that Shell sells to Merichem Company was required to be included in Shell's BQ calculation. Following consultation with U.S. EPA's Office of Air Quality Planning and Standards in March 1994, U.S. EPA determined that if a facility could document that a benzene waste is sold to a facility where it is controlled in waste management units that meet the control requirements of the Benzene Waste NESHAP (regardless of whether or not the purchasing facility is subject to the Benzene Waste NESHAP), this waste does not need to be included in the generating facility's BQ calculation. However, U.S. EPA advised Shell that the generating facility still has an obligation under the Benzene Waste NESHAP to submit appropriate documentation of the controls at the purchasing facility.

Shell's letter also does not discuss the fact that shortly after the issue of its spent caustic stream was resolved, on March 24, 1994, Shell submitted a "Modification to Scope of Work" for its compliance plan. In this revision to its waiver application, Shell informed U.S. EPA that based upon new sampling information, it no longer intended to control tank F-45.

After reviewing the need for documentation of the revisions to its control plan, resolving the problems associated with Shell's deficient waiver application, and then reviewing the spent caustic waste stream, U.S. EPA asked Shell to review its determination regarding the cooling tower makeup water. In April 1994, Katherine Keith contacted Mr. Petersen of Shell, and informed Mr. Petersen that the cooling tower makeup water was subject to the Benzene Waste NESHAP, and needed to be addressed in the waiver application's control plan. Mr. Petersen advised

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[2]This compliance option, which is set forth at 40 C.F.R. § 61.342(e), allows a facility to choose the aqueous waste streams that it will manage and treat so long as the BQ of the facility, which is calculated in accordance with 40 C.F.R. § 61.355(k), is less than 6.0 Megagrams/year (Mg/year).

Ms. Keith that he would inform his management of U.S. EPA's decision.

After two months without a response from Shell, Ms. Keith again contacted Mr. Petersen on June 21, 1994. At that time, Ms. Keith left Mr. Petersen a voicemail message asking what Shell intended to do about the cooling tower makeup water and advised Mr. Petersen that Shell's request for a waiver might be denied if this matter was not addressed. On June 22, 1994, Mr. Brewster of Shell, contacted Ms. Keith and advised Ms. Keith that Eric Petersen had forwarded her voicemail message to him. Mr. Brewster stated that this was the first time that he had heard that U.S. EPA was concerned about the cooling tower makeup water.

Ms. Keith had no reason to believe that pertinent parts of her discussions with Mr. Petersen, who had been identified as her contact at Shell concerning Shell's waiver application, particularly the details of the April 1994 call, would not be forwarded to Mr. Petersen's management. Mr. Brewster stated he intended to send additional documentation to U.S. EPA regarding this matter, and Ms. Keith and Mr. Brewster discussed a possible telephone conference once U.S. EPA had a chance to review Shell's submittal.

On July 27, 1994, U.S. EPA and Shell participated in a conference call that included representatives from U.S. EPA's headquarter's office and NEIC to try to provide information to Shell so it could resolve the issues associated with the cooling tower makeup water. Ms. Keith advised Shell that U.S. EPA was concerned that the groundwater pumped to the cooling tower is benzene-containing waste that Shell must include in its compliance plan, but Shell had not identified this benzene stream in its waiver application.

In response, Shell explained why it felt that the cooling tower makeup water from the well field is not subject to the requirements of the benzene NESHAP. Ken Garing and Robert Lucas of U.S. EPA explained why the groundwater was benzene-containing waste, and along with Ms. Keith, responded to Shell's questions related to definitions within the benzene NESHAP, such as whether the water going to the cooling tower is "integral to the process," and how U.S. EPA defines terms including "point of generation," "process unit," "product tank," "waste," and "waste management unit." In each instance, U.S. EPA explained how the groundwater pumped to the cooling tower fit within the definition of the Benzene Waste NESHAP, should have been included in Shell's compliance plan for this facility, and that therefore, under Shell's current compliance plan, if the cooling tower makeup water is not controlled, Shell will not achieve compliance with the Benzene Waste NESHAP. Diane Sipe, U.S. EPA, also informed Shell that if Shell's waiver application was determined to be deficient and ultimately denied, U.S. EPA would then consider its enforcement options. At the end of the conference call, Ms. Sipe

suggested that Shell provide written comments regarding why it felt that the groundwater pumped to the cooling tower is not subject to the Benzene Waste NESHAP requirements, and therefore need not be controlled, by August 12, 1994.

Based upon the series of events prior to and during the July 27, 1994 telephone conference call, it is unclear why Shell maintains in its February 2, 1995 letter that, based upon this conference call, Shell was left with the impression that U.S. EPA had accepted its argument regarding the cooling tower makeup water. If U.S. EPA had accepted Shell's arguments during this call, we would not have asked Shell to attempt to support its position with additional information.

On August 10, 1994, Shell submitted additional documentation related to the cooling tower makeup water. On November 17, 1994, Ms. Keith and representatives of U.S. EPA's headquarters participated in yet another conference call with Shell in which they tried to explain to Shell why the information provided in its August submittal was flawed. Ms. Keith ended the call by advising Shell that U.S. EPA's position is that the cooling tower makeup water is subject to the Benzene Waste NESHAP. Ms. Keith further advised Shell that she would be making a recommendation to her management within the next few weeks regarding Shell's application, and that unless Shell was able to provide information that demonstrated the cooling tower makeup water was not subject to the Benzene Waste NESHAP, her recommendation would be made based upon the information available to U.S. EPA at that time. Shell asked Ms. Keith what her recommendation would be. Ms. Keith explained that her recommendation was subject to review by her management, and she was not comfortable discussing this. Shell continued to ask what her recommendation would be, and Ms. Keith finally advised Shell that her recommendation would probably be to deny Shell's waiver request based upon Shell's failure to include this stream in its compliance plan.

After the November 17, 1994 conference call, no additional information was received from Shell. Therefore, following a review of the information available to U.S. EPA at that time, on December 28, 1994, U.S. EPA issued a letter to Shell advising Shell that U.S. EPA intended to deny Shell's waiver request.

Although Shell does not discuss any of this history in its February 2, 1995 letter, it is U.S. EPA's position that Ms. Keith and other U.S. EPA representatives could not have done more to try to help Shell understand the deficiencies in its waiver application. Although U.S. EPA was ultimately able to help Shell understand documentation regarding the controls at the facility to which Shell sells spent caustic was necessary to determine how the spent caustic stream should be included in Shell's BQ calculation, despite numerous calls between Shell and U.S. EPA, including the unusual step of allowing Shell to participate in a

conference call with representatives from our headquarters' offices, Shell refused to accept U.S. EPA's determination with respect to its cooling tower makeup water. Finally, after exhausting all available options for trying to resolve this matter, U.S. EPA issued its intent to deny letter.

Frankly, after the protracted and repeated efforts to help Shell understand the problems in its analyses of the cooling tower makeup water, U.S. EPA was disappointed to receive Shell's letter which states that Shell did not become aware of U.S. EPA's concerns with respect to the cooling tower makeup water until a November 1994 telephone call when Ms. Keith suddenly announced that she would be recommending to her management that Shell be denied a waiver. U.S. EPA does not have the resources to allow it to serve as an unpaid consultant to industry. Yet, here, Ms. Keith called Shell on numerous occasions to try to help Shell understand why it needed to correct its analyses of the cooling tower makeup water waste stream; representatives of U.S. EPA actually went out to the facility on two occasions, and reviewed information in Shell's application with Shell's representatives; in November 1993, U.S. EPA allowed Shell to revise its waiver application to reflect changes in its control plan that Shell had failed to report to U.S. EPA; U.S. EPA explained to Shell why its position with respect to the cooling tower makeup water was incorrect; and U.S. EPA provided Shell with access to regulatory experts, including setting up two conference calls that included representatives of U.S. EPA's headquarters office, to help Shell understand why its analyses of the cooling tower makeup water was flawed. When it became clear that Shell was entrenched in its position with respect to this waste stream, only then did U.S. EPA formally advise Shell that U.S. EPA intended to deny Shell's request for a waiver.

One of the assumptions underlying the entire benzene waiver application process is that the owner and/or operator of a given facility has sufficient knowledge of the facility to provide accurate and complete information in a waiver application. If, as in this case, the information provided by a company is insufficient, ambiguous and/or inaccurate, U.S. EPA asks the company to provide the needed information within a reasonable timeframe to substantiate the waiver request. U.S. EPA then reviews the application to confirm the calculations, the appropriateness of the proposed mitigating actions, and the adequacy of the benzene waste operations emissions control compliance strategy in accordance with U.S. EPA guidance. At all times, U.S. EPA attempted to work with Shell to resolve this matter.

The remainder of this letter attempts to respond to matters raised in Shell's February 2, 1995 letter.

Regarding the "Factual Background" portion of its February 2, 1995, letter, Shell has provided U.S. EPA with a copy of a site-specific health risk assessment of the benzene emissions from the cooling towers in 1992 which concludes that there was no increase in health risks due to benzene emissions from the cooling towers. (Shell's Exhibit 5.) However, the Administrator of U.S. EPA rejected the site-specific health risk assessment as an option for demonstrating compliance with the Benzene Waste NESHAP. Therefore, Shell cannot rely on its risk assessment to avoid compliance with the Benzene Waste NESHAP.

Turning now to the portion of the letter captioned, Section II. DISCUSSION, beginning on page 4, in Section II.A., Shell argues that U.S. EPA's December 28, 1994 letter indicating its intent to deny Shell's request for a waiver lacks specificity, and does not constitute sufficient legal notice. U.S. EPA disagrees with Shell's assessment. The December 28, 1994, letter clearly sets forth the notice of the information and findings on which the intended denial is based, as well as providing an opportunity to Shell to present additional information or arguments before a final determination is made. In addition, during the numerous hours that U.S. EPA has spent with Shell in reviewing the problems associated with Shell's analyses of its cooling tower makeup water, Shell has received detailed information with respect to U.S. EPA's position. However, U.S. EPA is willing to provide Shell with additional specific information related to U.S. EPA's intent to deny so that Shell may provide any additional information or arguments prior to a final determination. Please see Attachment A for further clarification of U.S. EPA's reasons for proposing to deny Shell's request for a waiver.

On page 5, Shell requests the identity of the waste streams referenced in U.S. EPA's notice of intent to deny. Please be advised that U.S. EPA considers the cooling tower makeup water to be a waste stream that is subject to the requirements of the Benzene Waste NESHAP. This matter is obviously understood by Shell as is demonstrated by Shell's discussion of this waste stream throughout its February 2, 1995 letter. The rationale for including the waste stream and the rationale for rejecting Shell's basis for excluding the waste stream has been the subject of the numerous discussions referenced in Shell's February 2, 1995 letter. To summarize U.S. EPA's position, the groundwater pumped to the cooling tower is a benzene-containing waste subject to the Benzene Waste NESHAP because:

1. Hydrocarbons, including benzene, have been lost from the Shell refinery over the years due to leaks, spills, etc., and have collected underground on the water table;

2. This benzene meets the definition of a "waste" under the Benzene Waste NESHAP because it is a material resulting from an industrial operation that has been discarded;

3. When Shell pumps the groundwater, some of this benzene waste is mixed with the water, and therefore, the groundwater is contaminated with benzene waste.

4. The production wells, which pump the benzene-contaminated groundwater meet the definition of a "waste management unit" under the Benzene Waste NESHAP because they are equipment that is used in the handling of a benzene waste.

5. The benzene-contaminated groundwater is a "waste stream" under the Benzene Waste NESHAP because it is generated by a waste management unit (i.e., the production wells).

6. Therefore, the benzene-contaminated groundwater is a waste stream subject to the Benzene Waste NESHAP and must be considered by Shell in the development of its facility's TAB, in selecting a compliance option and in the development of the facility's control plan.

Also, when Shell attempts to recover the lost hydrocarbons, including benzene, from its product recovery wells, it considers the benzene and the small amounts of benzene-contaminated groundwater that are recovered from these wells to be waste streams subject to the Benzene Waste NESHAP. These streams are included in Shell's BQ calculation and control plan. Therefore, since Shell admits that this benzene pumped from underground is a waste stream subject to the Benzene Waste NESHAP in this situation, it is only logical that the same material recovered from the production wells is also a waste stream subject to the Benzene Waste NESHAP.

With respect to Shell's request that U.S. EPA provide a rationale for rejecting Shell's basis for excluding this waste stream, as a general statement, Shell first deviates from the definitions of the terms in the Benzene Waste NESHAP to argue that the cooling tower makeup water is not a waste stream. Next, Shell argues that if its first argument fails and the cooling tower makeup water is a waste stream, then the waste stream does not need to be controlled either because it is an exempt waste stream, or in the alternative, it is being introduced into a process unit and is therefore not a waste. U.S. EPA has rejected these arguments because, as outlined above, the cooling tower makeup water is a waste stream that must be controlled for the reasons outlined below.

Next, on page 5, in Section II.B., Shell states that U.S. EPA seeks information beyond the scope of the statute and the regulations in its notice of intent to deny Shell's waiver request. Shell points out that U.S. EPA's Benzene Waste Operations NESHAP Waiver Guidance Document (waiver guidance) states that a ninety day report required by 40 C.F.R. § 61.357(a) is required for waiver applications; however, the benzene waste operation NESHAP requirements set forth at 40 C.F.R. §§ 61.11 and 61.342(b) are the regulations governing Shell's application for a benzene waiver. Please note that 40 C.F.R. § 61.11 does incorporate the requirements of 40 C.F.R. § 61.10, and 40 C.F.R. § 61.342(b) does incorporate the requirements of 40 C.F.R. § 61.10(b)(3). Therefore, if the only deficiency in Shell's application had been Shell's failure to submit a ninety day report, Shell's waiver request would not have been denied. (However Shell would then have been in violation of the requirements set forth in 40 C.F.R. § 61.357). Shell certainly had the right to submit its ninety day report solely for purposes of complying with the requirements of 40 C.F.R. § 61.357. Shell could have created an entirely separate document that satisfied the requirements of the Benzene Waste NESHAP. The issue is that Shell was required to provide sufficient information to U.S. EPA to allow U.S. EPA to be able to evaluate whether Shell had properly calculated its TAB and mitigation goals, and whether or not the control plan described in Shell's waiver application would result in ultimate compliance with the Benzene Waste NESHAP. However, Shell's submittal did not constitute compliance with 40 C.F.R. § 61.342(b)(2)(i) because:

1. Shell did not include a description of its method of compliance (by not controlling the benzene-contaminated groundwater, Shell's approach will not result in compliance); and,

2. Since Shell did not consider emissions from the cooling towers during the requested waiver period, Shell did not provide an accurate quantity of benzene emissions that result from extending the compliance date.

On page 6, in Section II.C.1., Shell states that U.S. EPA is incorrect in stating that all of the benzene waste streams have not been included in its waiver application. Shell states that it has included all waste streams subject to Subpart FF in its waiver application, and then explains why U.S. EPA's belief that the cooling tower makeup water is a benzene waste-stream is incorrect. U.S. EPA addressed this argument above.

On page 8, in Section II.C.2., Shell next states that even if the cooling tower makeup water were a "waste" or a "waste stream," it is exempt from the requirements of Subpart FF under 40 C.F.R. § 61.342(c)(1)(iii) since the first piece of process equipment in the cooling water system is the lime softeners which are a

"process unit." However, U.S. EPA does not agree with Shell's assessment that lime softeners are process units. "Process unit" is defined in the Benzene Waste NESHAP as "equipment assembled and connected by pipes or ducts to produce intermediate or final products." U.S. EPA does not believe that Shell, a petroleum refinery, is in the business of making softened water; therefore, softened water cannot be considered an "intermediate or final product" of Shell. Therefore, the lime softeners cannot be considered process units, as defined in the Benzene Waste NESHAP.

Also, U.S. EPA believes that Shell is misinterpreting 40 C.F.R. § 61.342(c)(1)(iii). This regulation states that once a waste stream is recycled to a process, it is no longer subject to 40 C.F.R. § 61.342(c), which includes the various compliance options available to facilities subject to the rule. This does not indicate or imply that the waste steam becomes exempt from Subpart FF once it is recycled to a process. In addition, on page 7 of its February 2, 1995 letter, Shell states that the cooling tower makeup water is not being recycled, which is consistent with U.S. EPA's position. Therefore, even if U.S. EPA accepted Shell's argument that the lime softeners are process units, 40 C.F.R. § 61.342(c)(1)(iii) would not apply because, as Shell states in its letter, the cooling tower water is not a recycled material.

Shell also argues in this section that even if the cooling tower makeup water were considered a waste stream, the cooling tower makeup water contains less than 10 parts per million (ppm) of benzene, and therefore would be exempt from control under 40 C.F.R. § 61.342(c)(2). First, U.S. EPA has sampling data from the production wells that indicates that some of the wells produce benzene-contaminated groundwater with a benzene concentration in excess of 10 ppm. Second, U.S. EPA agrees that 40 C.F.R. § 61.342(c)(2) provides an exemption for waste streams that contain less than 10 ppm benzene, but upon a thorough examination of the regulation, it is clear that this exemption is available only for facilities that are choosing to comply with the Benzene Waste NESHAP using the "Basic Control Option," found at 40 C.F.R. § 61.342(c). According to Shell's waiver application, Shell has chosen the control option found at 40 C.F.R. § 61.342(e). Under this control option, an aqueous waste stream, which the cooling tower makeup water is, must be controlled in accordance with 40 C.F.R. § 61.342(e)(2). Therefore, under the compliance option that has been chosen by Shell, Shell would not be entitled to the exemption found at 40 C.F.R. § 61.342(c)(2).

On page 9, in Section II.D., Shell argues that Shell's TAB is accurate without including the cooling tower makeup water because remediation wastes are not to be included in the TAB as set forth in 40 C.F.R. § 61.342(a)(3). U.S. EPA agrees with Shell in that

the groundwater pumping conducted by Shell at the production wells is a remediation activity as identified at 40 C.F.R. § 61.342(a)(3), and therefore does not need to be included in the facility's TAB calculation. Based upon this information, U.S. EPA has determined that Shell has satisfied the deficiencies noted in Paragraph 2 of U.S. EPA's December 28, 1994 intent to deny letter. However, please note that under the compliance option chosen by Shell found at 40 C.F.R. § 61.342(e), 40 C.F.R. § 61.342(e)(2) clearly states that remediation wastes must be considered in determining if a facility is in compliance.

On page 9, in Section II.E., Shell states that U.S. EPA claims Shell did not provide documentation supporting why 1991 was chosen as a base year for comparison with the amount of gasoline barge loading in 1992 and 1993. Based upon the information provided in Shell's February 2, 1995 letter, U.S. EPA has determined that Shell has satisfied the first deficiency noted in Paragraph 6 of U.S. EPA's December 28, 1994 intent to deny letter.

The second deficiency noted in Paragraph 6 of U.S. EPA's December 28, 1994 intent to deny letter requests that Shell document that transmitting gasoline via pipeline rather than by barge results in less emissions prior to its receipt at a gasoline station. Shell's position in its February 2, 1995 letter is that it is not obligated to provide emission information once the gasoline leaves the Shell refinery. Shell bases this argument on excerpts from the waiver guidance document; however, these excerpts actually refer to whether or not a facility may take credit for projects conducted at offsite locations, and do not refer to how the facility's mitigation project impacts emissions at offsite locations. It is U.S. EPA's position that if Shell's proposed mitigation project results in greater emissions at offsite locations, it does not obtain environmental benefits to mitigate the benzene emissions resulting from extending the compliance date as required by 40 C.F.R. § 61.342(b)(2).

On page 10, in Section II.F., Shell relies on the waiver guidance document to argue that since Shell believes that it has provided U.S. EPA what the waiver guidance requires, Shell's waiver request should be granted. U.S. EPA notes that Shell has previously advised U.S. EPA that U.S. EPA could not rely on the waiver guidance to deny a waiver application. (See Section II.B. of Shell's February 2, 1995 letter.) However, now that it may be used to bolster Shell's argument, Shell is advising U.S. EPA that U.S. EPA is bound to the statements made in the guidance document. U.S. EPA finds a logical inconsistency in Shell's position.

In addition, Shell's statement indicating that U.S. EPA does not have discretion in reviewing the waiver so long as the applicant

complies with the requirements of the guidance document completely ignores the fact that the guidance states that the assumption underlying the assurance to industry is, "...assuming the application is completed correctly." U.S. EPA's position is, as repeatedly stated above, that Shell's analysis of its cooling tower makeup water waste stream was wrong, its calculations of its mitigation goals are wrong, and, accordingly, Shell's control plan described in its waiver application will not result in ultimate compliance.

Shell concludes its February 2, 1995 letter by stating that "whether or not the cooling tower makeup water is a benzene waste stream has no effect on the status of the other previously identified waste streams" and adds that "it would be arbitrary and capricious for the USEPA to deny the waiver with respect to all of the benzene waste streams mentioned in the waiver application." The compliance option chosen by Shell, which is found at 40 C.F.R. § 61.342(e), allows a facility to choose which aqueous waste streams (i.e., greater than 10 percent water) to manage and treat, using methods solely up to the facility, so long as the **facility's** BQ, calculated in accordance with 40 C.F.R. § 61.355(k), is less than 6.0 Mg/year. This compliance option does not allow U.S. EPA to assess whether or not certain waste streams are in compliance; rather, compliance can only be assessed on a facility-wide basis. Therefore, whether or not the cooling tower makeup water is a waste stream does effect the status of the other waste streams, because all of the aqueous waste streams must be considered in order to determine if Shell's control plan will achieve compliance with the compliance option chosen by Shell.

In accordance with 40 C.F.R. § 61.11(d)(2), Shell may submit additional information or arguments to U.S. EPA to correct the deficiencies set forth in greater specificity in Attachment A before U.S. EPA makes a final determination with respect to Shell's waiver application. Such information shall be submitted to U.S. EPA within thirty (30) days of Shell's receipt of this letter. This additional opportunity to amend previously submitted information in support of your waiver request shall not create a right which may be exercised by any party in similar situations. Within sixty (60) days after U.S. EPA's receipt of any additional information, or within sixty (60) days after the information is to be presented, if no presentation is made, U.S. EPA shall make a final determination to grant or deny the request in accordance with 40 C.F.R. § 61.11(e).

In U.S. EPA's December 28, 1994 intent to deny letter, U.S. EPA advised Shell that Shell may submit additional information or arguments to U.S. EPA to correct the deficiencies in Shell's waiver application. U.S. EPA appreciates receiving the information that Shell has provided, including the exhibits to its February 2, 1995 letter. However, many of these exhibits

(e.g., letters from Shell to U.S. EPA, U.S. EPA's guidance documents, etc.) are already in U.S. EPA's possession. In addition, some of Shell's exhibits (e.g., Exhibit 8, Affidavit of Joseph N. Brewster) are more appropriate in an adversarial context; obviously, U.S. EPA's review of Shell's request for a waiver is a non-adversarial process. It would only be in the context of an adversarial proceeding that U.S. EPA would find it appropriate to provide such exhibits (e.g., affidavits from the various U.S. EPA representatives who have been in contact with Shell while Shell's request for a waiver is being evaluated).

U.S. EPA would like to again remind Shell of the prohibited activities specified under 40 C.F.R. § 61.05(c) regarding operation of any existing source subject to a NESHAP standard in violation of that standard without a waiver granted by the Administrator, or his or her delegate.

Finally, please note that in our prior dealings with sources, once U.S. EPA has issued an intent to deny letter, U.S. EPA has worked closely with those companies who are attempting to work with U.S. EPA to try to assist them in resolving the matters that affected their deficient waiver applications. Therefore, U.S. EPA anticipated that even though there had been numerous calls and contacts with Shell's representatives that preceded U.S. EPA's initial intent to deny Shell's waiver request, there would be discussions with Shell with respect to this matter before a final determination is made. Accordingly, pursuant to Shell's request, U.S. EPA has scheduled a meeting with Shell for March 13, 1995, at 1:30 pm. This meeting will be held on the 18th floor of the Metcalf Building located at 77 West Jackson Boulevard in Chicago, Illinois. Please contact Kathy Keith, Environmental Engineer, at (312) 353-6956, or Mary McAuliffe, Attorney, at (312) 886-6237, with any questions regarding this letter or the scheduled meeting.

Sincerely yours,

David Kee, Director
Air and Radiation Division

cc: J.N. Brewster, Manager
Environmental Conservation
Shell Oil Company

Dave Kolaz, Chief
Compliance and Systems Management Section
Illinois Environmental Protection Agency

ATTACHMENT A

The following information serves to provide greater specificity with respect to paragraphs 1 through 7 of U.S. EPA's December 28, 1994 intent to deny letter to Shell in accordance with 40 C.F.R. § 61.11(d). (Please note that U.S. EPA has determined that in its February 2, 1995 letter, Shell has provided sufficient information to address the concerns U.S. EPA raised with respect to paragraph 2 and the first item identified in paragraph 6 of its December 28, 1994 intent to deny letter.)

1. The requirements of 40 C.F.R. § 61.357(a) were not adequately met. Shell has not submitted a report that summarizes the regulatory status of all waste streams subject to 40 C.F.R. § 61.342 and are determined by the procedures specified in 40 C.F.R. § 61.355(c) to contain benzene. Specifically, Shell has failed to include the benzene waste streams generated by the production wells in its inventory of waste streams which are subject to 40 C.F.R. § 61.342.

2. The requirements of 40 C.F.R. §§ 61.357(a)(2) and (a)(3) were not adequately met. Shell did not provide a table identifying each waste stream and stating whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of Subpart FF. Specifically, Shell failed to identify the benzene waste streams generated by the production wells in its table and failed to provide the additional information about these waste streams that is required by 40 C.F.R. §§ 61.357(a)(2) and (a)(3).

3. The requirements of 40 C.F.R. § 61.342(b)(2) were not adequately met. Shell did not submit a plan under 40 C.F.R. § 61.10(b)(3) that is an enforceable commitment to obtain environmental benefits that mitigate all of the benzene emissions resulting from extending the compliance date (from the original compliance date of March 7, 1992, to the date the facility actually comes into compliance with the Benzene Waste NESHAP). Any such plan shall include the information outlined in 40 C.F.R. §§ 61.342(b)(2)(i) through 61.342(b)(2)(iii) and the Benzene Waste Operations NESHAP Waiver Guidance Document (EPA-453/R-93-010). Specifically, in calculating the amount of benzene emissions that result from extending the compliance date, Shell failed to include the benzene emissions from the cooling tower makeup water.

4. The requirements of 40 C.F.R. § 61.342(b)(2)(i) were not met.

   a. The control approach submitted by Shell will not result in Shell's compliance with the Benzene Waste NESHAP. Specifically, Shell's control approach does not include controls on the benzene waste streams generated by the

production wells. Based on information available to U.S. EPA, these waste streams may contribute up to 40 Mg/year to Shell's BQ calculation. 40 C.F.R. § 61.342(e)(2)(i) requires that facilities that choose the compliance option found at 40 C.F.R. § 61.342(e), which Shell has chosen, must maintain an annual BQ less than 6 Mg/year. Therefore, based on the control plan that Shell has submitted in its waiver application, which does not include controls for the cooling tower makeup water, Shell has not demonstrated that it will be in compliance with its chosen compliance option.

b. Shell did not consider all of the streams subject to 40 C.F.R. § 61.342 in calculating the quantity of benzene emissions that result from extending the compliance date. As a result, the mitigation plan submitted by Shell is inadequate to meet the mitigation goal when all of the subject streams are considered. Specifically, in calculating its mitigation goal, Shell failed to include the benzene emissions from the cooling tower makeup water from March 7, 1992, through the date when Shell achieves ultimate compliance with the Benzene Waste NESHAP. The mitigation plan submitted by Shell was based on a mitigation goal that did not include the benzene emissions from the cooling tower makeup water.

5. The requirements of 40 C.F.R. § 61.342(b)(2)(iii) were not adequately met. Shell has not supplied sufficient documentation to show that its proposed actions to obtain mitigating environmental benefits, i.e., reduced gasoline barge loading, truly result in reduced emissions to the atmosphere. Shell has not provided documentation showing that transmitting gasoline via pipeline rather than by barge actually results in less emissions prior to its receipt at a gasoline station. For example, does the gasoline transmitted by pipeline have to pass through more terminals than gasoline transmitted by barge (which would create added opportunities for benzene emissions at each terminal)?

6. In Shell's waiver application, it was specified that Shell's eventual compliance with the Benzene Waste NESHAP would be in accordance with the alternative compliance method described in 40 C.F.R. § 61.342(e). This compliance method requires facilities to manage and treat all waste streams with a flow-weighted annual average water content of less than 10 percent in accordance with 40 C.F.R. § 61.342(c)(1), and to manage and treat remaining waste streams so that the benzene quantity of these remaining streams, calculated in accordance with 40 C.F.R. § 61.355(k), is less than or equal to 6.0 Mg/year. Based on the description of controls to be installed at Shell provided in Shell's waiver application,

which does not include any sort of controls for the benzene waste streams generated by the production wells, Shell has not demonstrated that it will be in compliance with 40 C.F.R. § 61.342(e), or any of the other compliance options offered in the regulation.

Shell Oil Company

P. O. Box 262
Wood River, IL 62095

February 2, 1995

Mr. David Kee, Director
Air and Radiation Division
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Il 60604

Dear Mr. Kee:

SUBJECT: RESPONSE TO INTENDED DENIAL OF SHELL OIL'S REQUEST FOR A WAIVER OF THE BENZENE WASTE OPERATIONS NESHAP FOR ITS WOOD RIVER MANUFACTURING COMPLEX IN WOOD RIVER, ILLINOIS

We are in receipt of your letter of December 28, 1994, which Shell received on January 4, 1995, proposing to deny Shell's request for a waiver of compliance for the benzene waste operations National Emission Standard for Hazardous Air Pollutants (NESHAP) rule, 40 C.F.R., Subpart FF (§ 61.340 *et seq.*), for certain benzene waste streams in its Wood River Manufacturing Complex (WRMC). Shell wishes to take advantage of the opportunity you presented in your letter to respond to certain legal and factual positions set forth in your letter and requests your reconsideration of the proposed denial.

I. FACTUAL BACKGROUND

On June 5, 1990, after the United States Environmental Protection Agency's (USEPA) March 7, 1990 (55 Fed.Reg. 8292 (Mar. 7, 1990)) promulgation of the benzene waste operations NESHAP, Shell submitted a report to the USEPA and the Illinois Environmental Protection Agency (IEPA) notifying the USEPA of the benzene waste streams at WRMC. A copy of the initial notification is attached as Exhibit 1 of the Appendix. Although listed in the initial notification, the well water used for the cooling tower makeup water (listed as "N Property Prod. Well Water") was specifically designated as not being a waste. *See* p.2 of Attachment II of Exhibit 1. Instead, it was listed as "Other - Produced Groundwater." *Id.*

One of the reasons for the listing of the cooling tower makeup water in the initial notification was the confusion surrounding the regulations and how they might apply to the water. The cooling tower makeup water comes from a production well-field located on the north property

at WRMC which is then piped to a lime softening process before being used in the cooling towers. This water supply system dates back to the start-up of the refinery in 1917/1918 when the wells were used largely for the same reason as they are used today: cooling the process equipment at the refinery. In 1948, oil recovery via the production wells was initiated when it became evident that product was seeping into the ground and into the aquifer. In addition, product in the raw water interfered with the lime softening process that was used before the water was sent to the cooling towers. In 1972, separate oil recovery wells were installed for recovery of free product. A complete history of the well water supply and product remediation activities at WRMC are attached as Exhibit 2 of the Appendix.

At the time Shell submitted its initial notification, Shell was in the process of modifying its RCRA permit to finalize elements of the groundwater monitoring and groundwater corrective action program. The groundwater corrective action program contained provisions regarding the well-field. A copy of the RCRA Permit as approved on August 13, 1990 is attached as Exhibit 3 of the Appendix. Because of the rate at which the groundwater is pumped at the production wells, a large "cone-of-depression" of the groundwater table under the WRMC is maintained. This allows the product recovery wells to extract the free product from the groundwater. Thus, these well fields, working in conjunction with each other, provide a mechanism to contain and remove separate-phase hydrocarbons overlaying the groundwater. The USEPA incorporated this long-established, on-going recovery operation into the WRMC RCRA permit, requiring that Shell continue operation of the well fields at a rate of at least 3,000 gallons per minute. *See* Exhibit 3, Item 2.

After the initial notification, Shell sent a follow-up status report on March 7, 1991, to the USEPA and the IEPA indicating that no significant changes had been identified in the total annual benzene inventory (TAB). A copy of the follow-up status report is attached as Exhibit 4 of the Appendix. Then, on December 9, 1991, the USEPA proposed to stay the effectiveness of the benzene waste operations NESHAP. 56 Fed.Reg. 64217 (Dec. 9, 1991). The stay of effectiveness was finalized on March 5, 1992. 57 Fed.Reg. 8012 (Mar. 5, 1992). On that same date, the USEPA proposed amendments to the benzene waste operations NESHAP. While the USEPA was revising its rules, Shell continued with its efforts to reduce benzene emissions from WRMC. In 1991, Shell volunteered to participate in the USEPA's "33/50" program, which seeks to reduce emissions of a specific list of air toxics, including benzene. *See* 40 C.F.R., Part 63, and 57 Fed.Reg. 61970 (Dec. 29, 1992). In an effort to prioritize its voluntary efforts for reductions of benzene in the 33/50 program, Shell hired Radian Corporation to conduct a site-specific health risk assessment of the benzene emissions from the cooling towers in 1992. A copy of the report is attached as Exhibit 5 of the Appendix. This study concluded that there was no increase in health risks due to benzene emissions from the cooling towers. *See* Exhibit 5, p. 2.

The USEPA promulgated the final benzene waste operations NESHAP on January 7, 1993. Shell submitted a benzene waste operations NESHAP waiver application on March 24, 1993. A copy of the initial waiver application is included in the Appendix as Exhibit 6. As stated

in the waiver application, Shell needed the additional two years to complete the projects that it already had begun. *See* Exhibit 6. The TAB that Shell submitted along with the waiver application did not include the cooling tower makeup water. Shell's reasoning was twofold: first, the cooling tower makeup water is not a waste; and second, if it were a waste, it would be a "remediation waste" and therefore, under 40 CFR § 61.342(a)(3), it was not to be included in the TAB. Although not included in the TAB, the cooling tower makeup water was noted and described in the waiver application in the following statement:

> The WRMC also manages several groundwater remediation streams. As part of WRMC's RCRA Corrective Action Plan, the WRMC maintains a groundwater cone of depression under the facility by pumping water wells within the site. This water is used as cooling water tower make-up water and is hard-piped directly to the first process unit, the cold lime softeners. Oil recovery wells operated in the cone of depression pump recovered oil to controlled tankage prior to entering the recovered oil system. Any water drawn from this tank is processed in the cold lime softeners prior to use as cooling tower make-up water.

Exhibit 6, pp. 7-8. Thus, the USEPA was on notice that cooling tower makeup water existed and that it was not included in the TAB. On the basis of and in accordance with its waiver application, Shell continued to make capital improvements to its facility that eventually resulted in over $49,000,000.00 in expenditures to comply with the benzene waste operations NESHAP. Final compliance dates for all equipment now in service have been met, and the mitigation goals were all achieved.

On July 13, 1993, at the request of the USEPA, Shell submitted additional information regarding the waiver application. A copy of the letter and the additional information are attached as Exhibit 7 of the Appendix. Then, in November 1993, the USEPA performed a multi-media audit. The USEPA never mentioned, either during or immediately after the audit, that it believed that the cooling tower makeup water ought to be included as a benzene waste stream. *See* Affidavit of Joseph N. Brewster, attached as Exhibit 8 of the Appendix. Partly as a response to the audit and to the USEPA's review of Shell's compliance strategy, Shell submitted an updated application on November 19, 1993. According to the transmittal letter, the changes were "minor" and resulted from detailed engineering studies as well as safety and operability reviews of the individual projects. A copy of the updated waiver application and transmittal letter is included in the Appendix as Exhibit 9.

After submitting the updated waiver application, Shell kept in contact with the USEPA, both through telephone conversations and correspondence, keeping the USEPA informed of any

changes to plans that were outlined in the waiver application.[1/] The USEPA first mentioned that it was "looking" at the various benzene waste streams, including the ground water streams, in February, 1994, almost a year after Shell had submitted its initial waiver application. The USEPA asked technical questions about the cooling water system, but said that no other action on the part of Shell was required at that time. Although the USEPA continued to ask questions about the systems, the USEPA engineer did not inform Shell that she thought the cooling tower makeup water was subject to the benzene waste operations NESHAP until a phone call in May 1994. At that time the USEPA engineer only requested that Shell provide the USEPA with additional information to support its position that the cooling tower makeup water was not subject to the benzene waste operations NESHAP. That information was supplied in a telephone call to the USEPA on July 27, 1994, and confirmed by letter of August 10, 1994. A copy of the August 10, 1994, letter is included in the Appendix as Exhibit 12. During the July telephone call Shell was left with the impression that the USEPA had accepted its argument regarding the cooling tower makeup water. *See* Affidavit of Joseph N. Brewster, attached as Exhibit 8 of the Appendix. Then, during a November, 1994, telephone conference call the USEPA engineer stated that she believed the cooling tower makeup water to be a remediation waste and therefore subject to the benzene waste operations NESHAP, and would recommend to her supervisor that Shell be denied a waiver.

On December 28, 1994, the USEPA sent Shell its first formal notice that it plans to deny the waiver request. A copy of the December 28, 1994, letter is included in the Appendix as Exhibit 13. Despite the USEPA's intent to deny the waiver, on January 6, 1995, Shell certified to the USEPA and the IEPA that it was in compliance with the benzene waste operations NESHAP, successfully completing the work that it said it would perform in the waiver application. A copy of the January 6, 1995, letter is included in the Appendix as Exhibit 14. In addition, on the same day, Shell submitted its annual TAB for the calendar year ending December 31, 1994, in order to comply with 40 C.F.R. § 61.357(d)(2). A copy of the 1994 TAB is included in the Appendix as Exhibit 15.

II. DISCUSSION

A. Lack of Specificity In Notice Of Intent To Deny.

Because of the lack of specificity in your December 28, 1994, letter ("Notice"), Shell believes that it is not a legally sufficient notice for the purposes of 40 C.F.R. § 61.11(d). Section 61.11(d) requires that:

[1/] For example, on January 14, 1994, Shell notified the USEPA of its management of organic waste streams. A copy of the January 14, 1994, letter is attached as Exhibit 10 of the Appendix. Also, on March 24, 1994, Shell notified the USEPA that it was modifying the scope of its work by deleting the installation of an internal floating roof in tank F-45. A copy of the March 24, 1994, letter is attached as Exhibit 11 of the Appendix.

Before denying any request for a waiver, the Administrator will notify the owner or operator making the request of the Administrator's intention to issue the denial, together with --

(1) Notice of the information and findings on which the intended denial is based; and

(2) Notice of opportunity for the owner or operator to present, within the time limit the Administrator specifies, additional information or arguments to the Administrator before final action on the request.

40 C.F.R. § 61.11(d). You have not supplied Shell with "notice of the information and findings on which the intended denial is based." Instead, the Notice contains general allegations without any support or any specifics. Because of the lack of specificity in the Notice, Shell's opportunity to present additional information under § 61.11(d)(2) is impaired. It is patently obvious that the USEPA had particular waste streams in mind when it sent the Notice, and without the identity of those waste streams Shell cannot be confident that it has accurately and fully supplied the USEPA with the additional information requested. In addition, because Shell may be unable to address all of the USEPA's concerns due to the lack of specificity in the Notice, the Administrator will be unable to make a reasoned decision on Shell's request for a waiver. The proposed denial ought to supply Shell with the identities of the waste-streams that the USEPA believes to be missing, the rationale for including them and the rationale for rejecting Shell's basis for excluding them. Without the findings that form the basis of the USEPA's intended denial, it appears that the USEPA wants Shell to fail to provide the USEPA with enough additional information to obtain the waiver.

B. Notice Asks For Information Beyond The Scope Of The Statute And Regulations

The Notice references in the numbered paragraphs 1 through 3, that various requirements of 40 C.F.R. § 61.357 were not met. Compliance with that section of the regulations is not required under either the Clean Air Act or the regulations promulgated thereunder in order to obtain a waiver. The only requirements for an application for a waiver of the benzene waste operations NESHAP are found in 40 C.F.R. §§ 61.11 and 61.342(b). Thus, whether any requirement under 40 C.F.R. § 61.357 has been included in a waiver application is not relevant to whether Shell's waiver application is complete. Further, failure to provide information that is not required under 40 CFR § 61.11 or § 61.342(b) does not present a sufficient legal basis for denying Shell's waiver request.

Even so, Shell recognizes that § 2.3 of the USEPA's Benzene Waste Operations NESHAP Waiver Guidance Document (EPA-453/R-93-010) states that a "'90-day report' required by Section 61.357(a)" would be required for waiver applications. However, that section conflicts with § 5.1 of the same document, entitled "Waiver Application," where no such report is mentioned. Neither section cross-references the other. The guidance document does not clarify which of these two lists is correct or whether the two lists are cumulative. It is precisely for this reason that guidance documents should not be used as justification for a denial when all of the regulatory requirements have been met. Since guidance documents have not gone through the rigorous review and comment procedures required of regulations, not complying with the methodology set out in the guidance document, especially when there are conflicting methodologies within the guidance document, is not sufficient legal grounds for denying a waiver application.[2/]

Despite the fact that the guidance document contains internal conflicts and contains requirements not mentioned in the regulations, all of the elements in *both* § 2.3 and § 5.1 of the guidance document were included in Shell's waiver application, including the 90-day report.

C. Shell Considered All Benzene Waste Streams Subject To Subpart FF When It Prepared Its Waiver Request

1. The Cooling Tower Makeup Water Is Not A "Waste" Or a "Waste Stream" Subject To Subpart FF

In the paragraphs numbered 1 through 5, and 7, of the Notice, the USEPA states that Shell has not considered all of the benzene waste streams that are subject to Subpart FF. This, according to the USEPA has several effects: first, the report summarizing the regulatory status of each waste-stream would be incomplete; second, the TAB would not be accurate; third, the table identifying the waste-stream and its control would be incomplete; fourth, the mitigation goals would be incorrect; fifth, the mitigation plan would not include enough credits; and sixth, Shell would not be in compliance with the Subpart. Shell believes that the USEPA is incorrect in stating that all of the benzene waste streams have not been included in its waiver application. Therefore, Shell believes that the USEPA should grant the waiver as requested.

[2/] Indeed, the USEPA's own Guidance Document confirms this fact. In § 5.3 of the Guidance Document, the USEPA states: "in no case will a waiver application be rejected solely because the applicant used procedures or methodologies outside those contained in this guidance document or in some manner did not fulfill all the conditions specified in this guidance in completing their waiver application." Waiver Guidance Document, p. 5-3.

Shell has performed a thorough investigation and has concluded that the waste streams mentioned in the waiver requests are the only waste streams subject to Subpart FF of 40 C.F.R., Part 61. Shell is aware that the USEPA may believe the cooling tower makeup water to be a benzene waste-stream. Shell believes this position to be erroneous. First, Shell does not believe that the cooling tower makeup water is a "waste stream," as that term is defined by 40 C.F.R. § 61.341. That section defines "waste stream" as:

> the waste generated by a particular process unit, product tank, or waste management unit. The characteristics of the waste stream (e.g., flow rate, benzene concentration, water content) are determined at the point of waste generation. Examples of a waste stream include process wastewater, product tank drawdown, sludge and slop oil removed from waste management units, and landfill leachate.

40 C.F.R. § 61.341. The cooling tower makeup water is not a "waste" as defined by the regulations since it does not result from industrial, commercial, mining or agricultural operations and it is not being discarded, recycled or discharged. *See* 40 C.F.R. § 61.341. The water comes directly from the underlying aquifer and is used as a raw material that is integral to the operation of the refinery. Although the raw water is treated in lime softeners prior to circulation in the cooling tower system, this process is to "soften" the water (i.e., remove calcium, iron, magnesium, manganese cations and other naturally occurring substances) so that the water will not foul the refinery cooling system. If the water did not come from on-site production wells, the same process would be followed. Thus, because the cooling tower makeup water is not a "waste" it cannot be considered to be a "waste stream" subject to Subpart FF.

As indicated above, prior to January 1, 1995, the water in question came from both the "production wells" and the "product recovery wells." The production well system, as indicated above, has existed from the beginning of the refinery and has been maintained and operated for many years to supply water to the refinery's cooling system. The production wells draw their water from the bottom of the aquifer which has a minimum of contamination. The product recovery wells were first installed starting in the 1970's to draw any escaped product from the surface of the aquifer. Water from these wells is passed through a separator to recover the product before being sent to the lime softeners. As described above, both of these systems were included in the RCRA permit to ensure that a "cone of depression" was maintained and that any product was captured before the water escaped the property. As part of Shell's overall benzene control program, the product recovery water was diverted to the waste water system so that only production water goes into the cooling system as of December 28, 1994.

It appears that the USEPA has problems with the fact that the cooling tower makeup water comes from a production well field that is mentioned in Shell's RCRA corrective action plan. Under Shell's RCRA corrective action plan Shell is *required* to pump at least 3,000 gallons per minute from the well field through its product recovery wells and its production wells in order to maintain a "cone of depression." In simple terms, this "cone of depression" ensures that any product which has reached the groundwater will be drawn into the product recovery wells, which separate the product from the water; and then the water is sent to a waste water treatment plant. In order for the water drawn from the well field (assuming it is a "waste") to be considered a benzene waste stream subject to Subpart FF, the well field must be considered a "process unit," "product tank," or "waste management unit." Since it is clearly not a "process unit" or a "product tank," the only real possibility would be a "waste management unit." "Waste management unit" is defined as:

> a piece of equipment, structure, or transport mechanism used in handling, storage, treatment, or disposal of waste. Examples of a waste management unit include a tank, surface impoundment, container, oil-water separator, individual drain system, steam stripping unit, thin-film evaporation unit, waste incinerator, and landfill.

40 C.F.R. § 61.342. Since the well-field is none of these things it cannot be considered a "waste management unit." Therefore, one must conclude that the cooling tower makeup water is not a benzene waste operation subject to Subpart FF.

2. Even If The Cooling Tower Makeup Water Were A "Waste" Or "Waste Stream," It Is Exempt From The Requirements Of Subpart FF

Even if the groundwater for cooling tower makeup water were considered to be a NESHAP waste, the regulations provide specific exemptions for it. Once the groundwater is introduced into a process, in this case, the cooling water treatment and delivery system for the WRMC, it no longer is subject to 40 CFR § 61.342(c)(1)(iii). The first piece of process equipment in the cooling water system is the lime softeners. *See also* Exhibit 12. There is no question that lime softeners are a "process unit," as that term is defined in 40 CFR § 61.341:

> *Process unit* means equipment assembled and connected by pipes or ducts to produce intermediate or final products. A process unit can be operated independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

40 CFR § 61.341. The lime softeners are clearly not waste treatment: the water leaving the softeners is not discharged; rather, it is used for cooling tower makeup water. Further, the cooling tower makeup water contains less than 10 ppmv of benzene. Thus, even if it were a "waste stream," it would be "exempt" under § 61.342(c)(2).

D. Remediation Wastes Are Not To Be Included In The TAB

In paragraph number 2 of the Notice, the USEPA claims that Shell did not provide an accurate TAB for WRMC as determined in accordance with 40 CFR § 61.355(a). If the production groundwater from the North Property wells is the disputed area, Shell is unsure why this deficiency is listed. Even if the groundwater is determined to be a remediation waste, then the amount of benzene present in the stream would not be included in the TAB. Section 61.342(a)(3) states:

> Benzene in wastes generated by remediation activities conducted at the facility such as pumping and treatment of groundwater, and the recovery of product from soil or groundwater, are not included in the calculation of the total annual benzene quantity for that facility.

40 CFR § 61.342(a)(3). Thus, there is no basis for including the production groundwater from the North Property in the TAB.

E. Barge Loading Will Meet Mitigation Goals addressed ?

In paragraph number 6 of the Notice, the USEPA claims that Shell did not provide documentation supporting why 1991 was chosen as a base year for comparison with the amount of gasoline barge loading occurring in 1992 and 1993. Shell selected calendar year 1991 as the baseline for comparison because it had the lowest barge loading rates in the two years prior to the change that was made in 1992. In 1990, Shell loaded 2,714,944 barrels of gasoline, compared with the lower amount of 2,366,825 barrels in 1991. Shell voluntarily instituted reduced barge loading rates in 1992 in order to accumulate mitigating credits.

The reduction in barge loading, which is a pollution prevention activity, coincided with an increase in shipments via enclosed pipeline from the WRMC

facility. The change was not required by a federal, state or local regulation. According to the Guidance Document, pages 3-11 and 3-12, the credit towards a facility's mitigation goal must be generated by actions taken at the source. The reviewing authority may consider off-site actions if on-site mitigation opportunities are lacking.

This statement indicates that mitigating actions are facility/location specific and that off-site impacts should generally not be considered in the process. This position is also stated on page 2-6 of the Guidance Document, where it states that "emission reductions should be achieved from sources located at the affected facility" virtually precluding consideration of off-site impacts. Nowhere in the Guidance Document does it say that off-site transfer locations must be included in the calculation of mitigating credits. Our reduction in gasoline barge loading during 1992 and 1993 has generated sufficient credits to offset the calculated mitigation goal for lost benzene emissions during the waiver period. In addition, it is our belief, based on our knowledge of the petroleum industry practices, that shipment via pipeline rather than barges results in a net reduction of benzene emissions all the way to the terminal.

F. Whether Or Not Cooling Tower Makeup Water Is Subject To Subpart FF Does Not Affect Shell's Waiver Application

but what about p.5-6 re: guidance?

The USEPA is precluded from denying Shell's waiver request by the language of the Guidance Document. The Guidance Document specifically states that facilities that follow the procedures outlined in the Guidance Document will be "assured" of receiving a waiver:

> The final objective of the waiver policy is to provide industry and reviewers some certainty about what *entitles* an applicant to a waiver. Facilities that meet the requirements of the waiver application as set forth in this document are *assured* of receiving a waiver.

Waiver Guidance Document, p. 2-3 (emphasis added). This statement is reinforced later in the Guidance Document, where it states in § 5.3 that:

> The EPA Regional (or delegated State or local agency) staff reviewing waiver applications should make every effort to inform the applicant of the completeness of their application *as early as possible*. It should also be noted that if the application for a waiver is completed following the guidance presented in this document, then (assuming the application is completed correctly) there is *certainty* of waiver application approval.

Waiver Guidance Document, p.5-3 (emphasis added); *see also* 58 Fed.Reg. 3090 (Jan. 7, 1993). These statements seem to take the waiver process out of

the realm of discretion so long as an applicant complies with the requirements of the Guidance Document. As set forth above, since Shell has complied with the specific directives of the Guidance Document according to the Guidance Document the USEPA must grant Shell a waiver.

Moreover, in the final analysis, the USEPA must keep in mind that whether or not the cooling tower makeup water is a benzene waste stream has no effect on the status of the previously identified benzene waste streams. It would be improper, unlawful, arbitrary and capricious for the USEPA to deny the waiver with respect to all of the benzene waste streams mentioned in the waiver application. Shell has submitted all of the information that is required in order to obtain such a waiver and therefore the only proper course of action is to grant the waiver.

III. CONCLUSION

Shell submits this letter with the firm belief that it has provided the USEPA with more than sufficient reasons and arguments to support its request for a waiver of the benzene waste operations NESHAP. The information contained in this letter should answer any remaining questions that the USEPA has regarding Shell's request. Shell has included an Appendix of documents and correspondence that Shell possesses on this issue. With this information, the USEPA must change its position and, instead of denying the request, grant Shell's waiver request. Finally, Shell requests a meeting with the USEPA to further address any concerns and questions regarding the record and Shell's request. Please contact Joseph N. Brewster at WRMC or James T. Harrington of Ross & Hardies to set up this meeting.

558-1000

Yours very truly,

E. G. Johnson
Manufacturing Complex Manager

2/21

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

DEC 2 8 1994

REPLY TO THE ATTENTION OF:

(AR-18J)

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

E.G. Johnson
Manufacturing Complex Manager
Shell Oil Company
P.O. Box 262
Wood River, Illinois 62095

Re: Request for Waiver Under 40 C.F.R. Part 61, Subpart FF, for Shell Oil Company's Wood River Manufacturing Complex

Dear Mr. Johnson:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the Shell Oil Company's (Shell) application for a waiver of compliance from the control requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAP) - Benzene Waste Operations, 40 C.F.R. Part 61, Subpart FF (Benzene Waste NESHAP), for its petroleum refinery located in Wood River, Illinois. Shell submitted an application for a waiver from the control requirements of the Benzene Waste NESHAP on March 25, 1993, and subsequently amended the application on November 19, 1993. U.S. EPA has been in contact with Shell personnel on numerous occasions since March 25, 1993, concerning Shell's waiver application, including conducting two inspections at the Wood River refinery and participating in several teleconferences with Shell personnel. The purpose of this letter is to notify you that based on all of the information presented to U.S. EPA by Shell, there are still several deficiencies in Shell's waiver application and consequently, U.S. EPA intends to deny your request for a waiver of compliance from the control requirements of the Benzene Waste NESHAP. As required under 40 C.F.R. § 61.11(d)(1), the information provided below serves as the basis for U.S. EPA's intended denial.

1. The requirements of 40 C.F.R. § 61.357(a) were not adequately met. Shell has not submitted a report that summarizes the regulatory status of all waste streams subject to 40 C.F.R. § 61.342 and are determined by the procedures specified in 40 C.F.R. § 61.355(c) to contain benzene.

2. The requirements of 40 C.F.R. § 61.357(a)(1) were not adequately met. Shell did not provide an accurate total annual benzene (TAB) quantity from facility waste determined in accordance with 40 C.F.R. § 61.355(a).

3. The requirements of 40 C.F.R. §§ 61.357(a)(2) and (a)(3) were not adequately met. Shell did not provide a table identifying each waste stream and stating whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of Subpart FF.

4. The requirements of 40 C.F.R. § 61.342(b)(2) were not adequately met. Shell did not submit a plan under 40 C.F.R. § 61.10(b)(3) that is an enforceable commitment to obtain environmental benefits that mitigate all of the benzene emissions resulting from extending the compliance date (from the original compliance date of March 7, 1992, to the date the facility actually comes into compliance with the NESHAP). Any such plan shall include the information outlined in 40 C.F.R. §§ 61.342(b)(2)(i) through 61.342(b)(2)(iii) and the Benzene Waste Operations NESHAP Waiver Guidance Document (EPA-453/R-93-010).

5. The requirements of 40 C.F.R. § 61.342(b)(2)(i) were not met. Shell did not consider all of the streams subject to 40 C.F.R. § 61.342 in calculating the quantity of benzene emissions that result from extending the compliance date. As a result, the mitigation plan submitted by Shell is inadequate to meet the mitgation goal when all of the subject streams are considered.

6. The requirements of 40 C.F.R. § 61.342(b)(2)(iii) were not adequately met. Shell has not supplied sufficient documentation to show that the proposed actions to obtain mitigating environmental benefits, i.e., reduced gasoline barge loading, truly result in reduced emissions to the atmosphere. First, Shell has not provided documentation supporting why 1991 was chosen as the base year for comparison with the amount of gasoline barge loading occuring in 1992 and 1993. Second, Shell has not provided documentation showing that transmitting gasoline via pipeline rather than by barge actually results in less emissions prior to its receipt at a gasoline station. For example, does the gasoline transmitted by pipeline have to pass through more terminals than gasoline transmitted by barge?

7. In Shell's waiver application, it was specified that Shell's eventual compliance with the Benzene Waste NESHAP would be in accordance with the alternative compliance method described in 40 C.F.R. § 61.342(e). This compliance method requires facilities to manage and treat all waste streams with a flow-weighted annual average water content of less than 10 percent in accordance with 40 C.F.R. § 61.342(c)(1), and to manage and treat remaining waste streams so that the benzene quantity of these remaining streams, calculated in accordance with 40 C.F.R. § 61.355(k), is less than or equal to 6.0 Mg/yr. Based on the description of controls to be installed at Shell that are listed in Shell's waiver application, Shell will not be in compliance with 40 C.F.R. § 61.342(e), or any of the other compliance options offered in the regulation.

In accordance with 40 C.F.R. § 61.11(d)(2), Shell may submit additional information or arguments to U.S. EPA to correct the deficiencies listed above before U.S. EPA takes final action on this request. Such information shall be submitted to U.S. EPA within 30 days of Shell's receipt of this letter. This

additional opportunity to amend previously submitted information in support of your waiver request shall not create a right which may be exercised by any party in similar situations. Within sixty (60) days after U.S. EPA's receipt of any additional information, or within sixty (60) days after the information is to be presented, if no presentation is made, U.S. EPA shall make a final determination to grant or deny the request in accordance with 40 C.F.R. § 61.11(e).

U.S. EPA would like to remind Shell of the prohibited activities specified under 40 C.F.R. § 61.05(c) regarding operation of any existing source subject to a NESHAP standard in violation of that standard without a waiver granted by the Administrator, or his or her delegate.

If you have any questions regarding this letter, please contact Kathy Keith, of my staff, at (312) 353-6956.

Sincerely yours,

David Kee, Director
Air and Radiation Division

cc: J.N. Brewster, Manager
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David Kolaz, Chief
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